Health and Health Care Problems Among the Kumiai of San Antonio Necua and Their Indigenous Relatives in Baja California: Reflections of Poverty, Marginality, and a History of Colonization

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Abstract

The rural Kumiai community of San Antonio Necua is one of the few remaining indigenous communities in Baja California, Mexico. Necuan health and health care problems are best understood through a consideration of the effects of colonialism and marginalization on indigenous groups in northern Baja California as well as a tradition of medical pluralism in Mexico. The lack of traditional healers and biomedical providers in the community, high rates of preventable or manageable illnesses, and a blend of biomedical, folk mestizo, and traditional indigenous beliefs about health and illness reflect current conditions of rural poverty and economic isolation. Descriptions of health and health care problems are based on ethnographic fieldwork among the Kumiai, their Paipai relatives, and their primary non-governmental aid organization.

Keywords: Kumiai, Baja California, health, marginality

Introduction

In this article, health and health care problems of the Kumiai community of San Antonio Necua and their indigenous relatives in Baja California, Mexico, are discussed. The Kumiai are treated as a case study of indigenous health. Data stem from twelve months of fieldwork among Necuans, their indigenous relatives, and their primary aid organizations, the Native Cultures Institute, and the Medical Aid Network, both located in Ensenada, Baja California, Mexico. Patterns of illness and health care barriers are reflective of health and health care problems among the rural poor in Mexico as well as the specific history of colonization and peripheralization of indigenous groups in Mexico. To demonstrate this, health and health care problems of San Antonio Necua and three other indigenous communities will be placed within a history of marginalization and medical pluralism in Mexico.

Research Methods and Data Collection

Data were collected during twelve months of research and participant observation between 1999 and 2001 among four indigenous communities, the Medical Aid Network (MedNet), and the Native Cultures Institute (CUNA). The four communities were San José de la Zorra, San Antonio Necua, La Huerta, and Santa Catarina. Fifty-nine community members were interviewed in 1999 as were their thirteen most utilized MedNet providers. MedNet and CUNA are non-governmental organizations aimed at the cultural and economic sustainability of Baja's indigenous communities; MedNet specifically targets issues of health care access. Between 1999 and 2001, MedNet and CUNA administrators were repeatedly interviewed in semi-formal and informal formats. Additionally in 1999, interviews were conducted with four officials and researchers from the National Indigenous Institute (INI) and the National Institute for Anthropology and History (INAH). In-depth information about San Antonio Necua and Necuans come from interviews with eighty-four of eighty-seven registered adult Kumiai in 1999-2000 and also from additional, in-depth interviews with thirty-five of these adults serving as case studies in 2000-2001.

Participant observation included living with elders from the four communities during a two-week cultural education program in the United States, a one-week stay in Santa Catarina, numerous outings, community meetings, family gatherings, and informal visits over a ten month period in San Antonio Necua, and permanent residence during research with anthropologist and CUNA founder, Michael Wilken-Robertson.

Baja California's Indigenous Communities

Prior to European contact, between 40,000 and 55,000 indigenous people lived on what is now the Baja California peninsula (Magaña Mancillas, 1996; Garduño, 1994; Zarate Loperena, 1993). After centuries of introduced disease, environmental erosion, and forced marginalization, however, fewer than 1,000 people remain of these once seasonally migrant, patrilineal groups (CUNA and CEPA, 1998). The overwhelming majority lives in ten rural communities in northern Baja California (Figure 1). The four indigenous languages are from the Yuman linguistic family. Indigenous community members self-identify by the names of their native languages: Kumiai/Cochimí, Paipai, Cucapá, and Kiliwa.

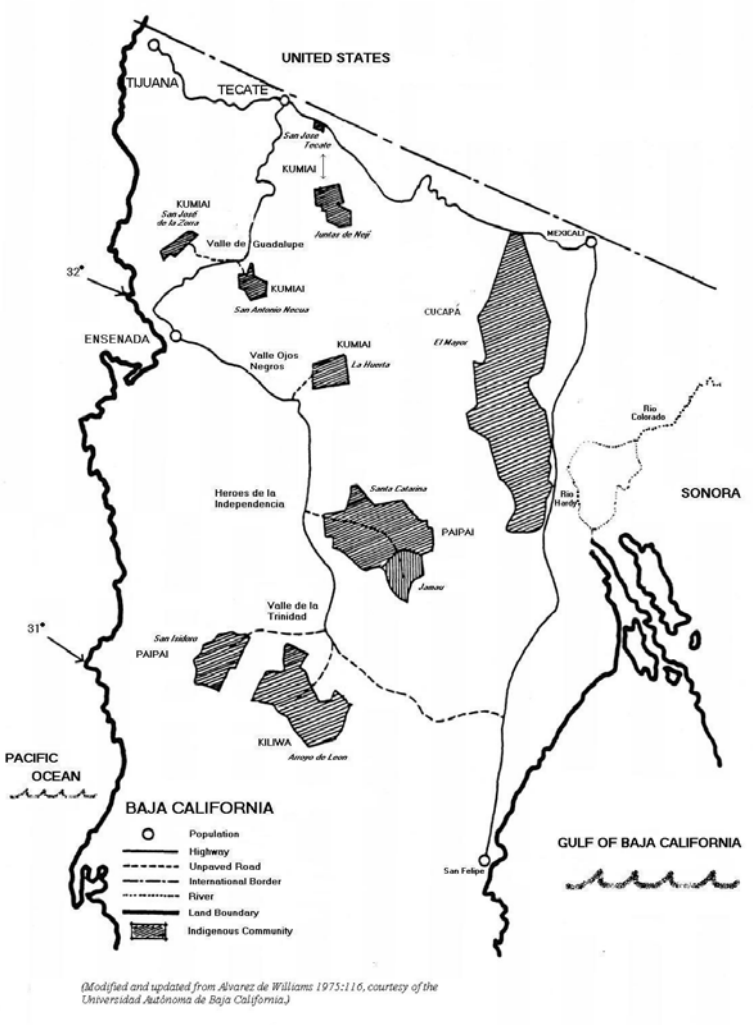

Figure 1
Map of Indigenous Communities of Baja California. Map courtesy of the School of Architecture at Universidad Autónoma de Baja California (also see Alvarez de Williams 1975, p. 6).

The creation of the Unites States-Mexico border in 1848 denied indigenous groups their seasonal migration into northern climes during summer months. Some patrilineal bands became established north of the border, while other, closely related bands remained in Baja California. Traditional patterns of subsistence and residence could not be followed, and the respective governments did little to provide alternatives. Kinship, trade, and local economies were severely disrupted with no external attempt to compensate for cultural and economic losses which followed. On both sides of the border, indigenous groups were either forcibly segregated or assimilated as the lowest working class. In Baja California, after an initial period of only partially successful assimilation by a succession of missions and Spanish cavalries, indigenous groups were pushed further from urban centers into the some of the poorest rural environments. Until the middle of the 1900s, these communities were virtually ignored by the Mexican government. Consequently, indigenous groups of Baja California are among the poorest and most marginalized of Mexican citizens (Garduño, 1994; Vargas Ramírez, 1980; Estrada Ramírez, 1995; Alvarez de Williams, 1975).

An example is the rural indigenous community of San Antonio Necua (Necua). Between 110 and 158 Kumiai live in Necua (Bendímez Patterson, 1999). Population estimates vary according to seasonal work patterns that may take some Necuans away from the community for extended periods of time. Necua is reputed to be the wealthiest of Baja's indigenous communities because of its partial ability to participate in the regional U.S.-Mexico border economy, the presence of a government store in the community, electricity in most homes (a single light bulb), and a mostly reliable water system that transports untreated water into the majority of kitchens. Yet there is close to a fifty percent unemployment rate among men, historically the primary wage earners. Averaged across all adults, working or unemployed, the weekly income per adult is around 285 pesos ($30). Per person including children, about 80 percent of Necuans have less than 200 pesos ($20) available to them per week. Roads are unpaved, and during wet winters, the road to Necua can become impassable.

Medical Pluralism in Mexico

A history of medicine in Mexico is complex. It is one of both blending and intentional eradication of large portions of indigenous healing traditions. While conversion and acculturation were imperatives for colonial administrators, they did not do so entirely at the expense of indigenous health traditions, most notably those of herbal medicines. This is not to say that the indigenous healers or citizens were given equal opportunity. In fact, in spite of a few attempts to assimilate indigenous citizens, the majority of colonial programs, politics, and economics actively kept indigenous citizens marginalized and powerless (Schendel, 1968). For examples, rural priests intent upon conversion of indigenous communities declared many indigenous healing and religious practices pagan.

Mexico developed into a society with a rigid class structure based on ethnicity and class. Mexican society was and is three-tiered: Spanish, *mestizo* , and indigenous. *Mestizo* refers to those Mexicans who do not identify as indigenous. Historically and popularly, mestizo refers to the 'mixing' of Spanish and indigenous Mexican populations. The indigenous are on the lowest tier (Schendel, 1968; Finkler, 1994a; PAHO, 1998). Mexican medical systems likewise developed into a hierarchical structure (in order of prestige and social power): Spanish biomedicine (with or without supplemental herbalism), homeopathy, mestizo faith-based/religious healing, and indigenous healing (Finkler, 2000, 2001).

Mexican medicine can be divided by professional, popular, and folk sectors (Kleinman, 1978). In professional sectors, state-sanctioned health care includes biomedicine, homeopathy, and herbal medicine (Finkler, 1994a, 1994b, 2001). In popular sectors, evangelical faith healing competes with *curanderismo* and *espiritualismo*, two folk, nominally Christian forms of faith-based healing

rejected by mainstream Protestant denominations (Young and Garro 1994; Finkler 1994a). Chiropractic care competes with *sobadores*, masseuses using folk notions of the body's movements, and *hueseros*, or lay bonesetters (Whiteford, 1999). Present in some states such as Chiapas and Oaxaca, indigenous healing systems are practiced alongside mestizo popular medicine. However, it is more common to encounter a few elements of an indigenous medical system, such as herbalism, rather than its full complement of indigenous etiology, healing rituals, medications, and practitioners. In any case, each of these popular health care practices competes or is used in conjunction with professional sectors. In folk sectors, home remedies include commercial biomedicine, herbal remedies, remedies based on metaphorical and literal hot/cold qualities of foods and drinks, prayer, and indigenous forms of healing. *Parteras*, or lay midwives, are used with or without formal obstetrical care (Sesia, 1996). Even with rampant poverty and little to no disposable income, most Mexicans support these alternative forms of care for various reasons, most notably that of access (Young & Garro, 1994). Even though health insurance partially covers state-sanctioned, professional health care, the majority of health expenditures in Mexico for 1998 were out-of-pocket expenses for popular and folk health care (PAHO, 1998). Local diversity and availability of healers depend on a variety of factors, including geography, regional sociopolitical histories, and economics.

Most non-biomedical options are not covered by insurance plans. Instead, biomedical care dominates the Mexican professional health care sector and insurance. Various private and public insurance programs provide partial to full coverage of fees. Private sector employees are covered by IMSS (Mexican Social Security Institute) and the PEMEX system for petroleum workers. State and government employees are covered by ISSSTE and ISSSTECALI (respectively, national and Baja California's Mexican Social Security and Services for State Workers). The uninsured have access to SSA (Secretary of Health) services and various non-governmental organizations, such as the Medical Aid Network. Rural areas, distant from urban centers, are assigned *pasantes*, recently graduated medical students serving their obligatory year of social service as physicians in medically underserved areas. In theory, all Mexicans have access to health care.

In actuality, however, access to biomedical care depends on geography and socioeconomic resources. Among indigenous communities in Baja California, forty-five percent are not covered by institutionalized health care and rely instead on self-medication with herbs and pharmaceuticals (Garduño, 1994). For example, free services by pasantes are rarely present in communities in Baja California with less than sixty families. Only one indigenous community, Santa Catarina, has a full-time pasante living in the community, and this pasante post was only recently created in 2000. In order to reach a pasante or other services, indigenous community members must travel in automobiles, a rare luxury in their communities.

Health Care Options for Necuans

The health care situation in San Antonio Necua demonstrates the lack of access among rural indigenous communities. There is no resident health care provider in Necua, and few Necuans have means to reach one when necessary. A pasante comes to Necua one to two times a month to dispense vaccinations and perform basic tests. Also, a government team of a nurse and social worker visit one to two times a month, as well, with a focus on child and elderly acute care. Unless a Necuan can make the trip to Valle de Guadalupe or Ensenada, this is the extent of health care in Necua.

The closest source of regular health care is fifteen kilometers away in Valle de Guadalupe. In Guadalupe there is both a clinic for uninsured Mexicans and a clinic for workers insured by private employers. State and petroleum industry workers must travel to Ensenada for their care. The majority of Necuans are uninsured for most of their lives. Jobs that provide health insurance are outside of Necua and are difficult to maintain when there is insufficient reliable transportation. Moreover, most manual labor and field jobs lack the mandated health

insurance. As a result, although most Necuans have public or private health insurance at some time in their lives, for the most part they lack constant health care coverage.

The primary health care provider in six indigenous communities, including San Antonio Necua, is the Medical Aid Network. For example, 71.4% of adult Necuans either currently receive or have received care from MedNet, and in 2000-2001, it provided care for 41.7% of them. MedNet was created in 1994 by CUNA to increase health care opportunities for indigenous communities in Baja California. It is primarily a volunteer health care provider and pharmacy program that provides free and pro-rated health care and medications to the uninsured in Necua and the other indigenous communities in Baja California. It is managed by a Necuan and a mestizo accountant/promoter. Oversight functions are located in the Native Cultures Institute. Types of care include preventive, acute, and maintenance care. Medications are sometimes covered by MedNet, depending on the level of their funding for that quarter. Types of providers include biomedical generalists and specialists, homeopaths, chiropractors, herbalists, and, occasionally, a *curandero*. The majority of providers are located in Ensenada and *ejidos* nearby to indigenous communities. Ejidos are communal land grants towns. They are generally small, rural communities with basic services. MedNet also takes semi- or tri-annual medical brigades to each indigenous community for preventive, acute, and maintenance care.

The next major provider of health care in Necua is ISSSTE/ISSSTECALI, currently covering 28.6 % of Necuans. IMSS follows with 21.4% of the community. A few Necuans, 8.3%, have no means to health care. Throughout their lives, however, only 1.2% of Necuans has not used any formal health care. More common is supplemental MedNet coverage; 62.6 % have used MedNet in combination with other institutions (IMSS and ISSSTE, primarily) and private care. The combination of health care providers suggests two things. First, the unreliability of work encourages truncated, intermittent employer-provided coverage. Coverage through employment is said to 'va y viene' (go and come) with seasonal field opportunities. Secondly, the lack of a consistent health care provider reduces the likelihood of complete care, including successful management, for chronic illness such as diabetes and high blood pressure.

In addition to biomedical care, Necuans may use sobadores and curanderos, but this is rare. The handful of Necuans who have used these folk practitioners did so in their youth, at least fifteen years prior to the time of fieldwork. Necuans are very clear that they prefer biomedical care because of its potential for fast results. However, possibly because biomedical care is difficult at times to procure, Necuans have also maintained their herbal medicine traditions and incorporated other non-local herbs popular among mestizos.

Inability to afford services and difficulty in reaching them affects the type and frequency of providers sought. Proximity and cost appear to determine choice more than preference or ideology, although initially the data suggest that a combination of types of healers is the preferred mode of treatment. Rather, it is the most practical mode. Most indigenous community members seek a variety of healers for long-term illnesses, including doctors, chemists, chiropractors, sobadores, spiritualists, religious healers, herbalists, and curanderos. Overall, in 1999, 84.7% of respondents in four different indigenous communities, including Necua, had used a doctor and/or chemist, while 64.4% had used non-biomedical healers. Fifty-six percent of respondents had used both biomedical and non-biomedical healers, and only 8.5% had never sought care from any type of healer.

While these data point to the diversity of healers practicing in Mexico, they do not necessarily indicate preference of provider. Preference is mediated by cost and proximity. A combination of healers is the most realistic mode, even though, first and foremost, biomedicine is preferred for most physical conditions. Non-biomedical care is preferred for only three conditions. Sobadores are consulted for feelings of gastrointestinal blockage and/or muscular

discomfort. Curanderos are occasionally sought for emotional upset related to romantic relationships or for bad luck. Biomedicine is favored for all other conditions reported by community members. If unavailable, community members make optimal decisions regarding non-biomedical health care. This occurs mainly in communities such as Santa Catarina and San Antonio Necua who have infrequent visits by biomedicine in the community but have more frequent transport to nearby ejidos where non-biomedical care is available and cheaper.

Choice among non-biomedical healers is based on assessing differences in barriers to care and reputation. For example, if a religious healer visits the community, they will seek him out rather than incurring cost and losing possible work time to find a ride into town for a different healer for the same condition. If the religious healer is not present and community members can locate a ride to a nearby ejido, an herbalist's treatment will be sought if it is cheaper than that of a spiritualist. If the community member has MedNet or other coverage, he may still have to pay for his medications, at which time he may opt for a spiritualist's treatment, if less expensive. In each of these scenarios, community members also incorporate into their decisions reputations and personal preferences for certain healers. Selection among multiple healers, then, has to do with an assortment of factors, including availability, cost, proximity, and reputation of healer. However, there does not appear to be a guiding cognitive construct – other than that of practicality and perceptions of efficacy – for choice of healers, corresponding to previous research among rural, poor Mexican populations (Young and Garro 1980).

Choice of treatment depends partly on similar factors as choice of healer, but it is also affected by a long history of complimentary treatment using folk and herbal remedies. Folk non-biomedical treatments include smoke *limpias* (cleansings), prayer, faith healing, and holy water. Herbal remedies are generally taken in the form of teas. Pharmaceuticals refer to prescribed drugs as well as auto-medication of prescription drugs. While the most frequent treatment used is pharmaceuticals, the use of herbs and other folk non-biomedical treatments is also very common. Sixty-three percent of Necuans were taking medicine at the time of the 2000-2001 interviews, and 34.5% were taking both pharmaceutical and herbal remedies. Only 2.4% were using herbal remedies alone. Thus, although certain illnesses were treated with one of the three treatments alone, a solid majority was treated by a combination of remedies. The percentage of respondents who had never sought treatment for illnesses is 10.2%.

Types and Prevalences of Illness

Health problems reflect the lack of adequate, consistent care in Baja's indigenous communities as well as their poverty and isolation. High rates of diabetes, hypertension, and kidney problems plague community members. Biomedical treatments are frequently truncated due to an inability to procure more medicines. Flu and colds run rampant and untreated during winter months, contributing to widespread bronchitis. Folk, or non-biomedical, illnesses are also present but not as common as would be expected among isolated, indigenous communities. In this section, prevalence rates of self-reported biomedical illnesses, mental health statuses, and folk illnesses will be presented.

Biomedical Illnesses

There is significant coherence between the literature on prevalence rates of biomedical illness among Mexican rural populations and Baja's indigenous communities. Biomedical illnesses that afflict these communities are hypertension, diabetes, rheumatism, breathing difficulty such as asthma and bronchitis, and gastrointestinal diseases or disorders (Garduño1994). A particularly significant problem in winter months is the cold/flu (In much of Mexico, there is little distinction between a cold and the flu. They are both referred to as *gripa*.). Other prevalent conditions include obesity, substance abuse, mental illness, and dental disease (Rogers and Evernham 1983). Dental disease and gastrointestinal disorders are typically associated with poverty and scarcity of uncontaminated water (Hernández Ortíz and Vargas Ramírez 1996).

Among respondents from the four indigenous communities during 1999 interviews, the most frequent acute infectious diseases were flu and whooping cough. Most common chronic illnesses were high blood pressure, rheumatism, gall bladder disease, diabetes, heart disease, and severe visual problems. It is unclear as to what type of severe visual problems were most common, as the symptoms – inability to see clearly, red and tearing eyes, and eye infection, could correspond to a number of eye diseases, including cataracts, pink eye, chronic eye irritation from smoke from wood-fire ovens (WHO 2000), as well as to secondary effects of diabetes.

Chronic illnesses are the primary health problems in indigenous communities. For example, both in Necuan personal and family medical histories, the most frequent illnesses are severe eye problems, blood pressure (both the clinical condition of high blood pressure and the lay conditions of low and variable blood pressure), kidney problems, and diabetes (Tables 1 and 2). Eight women, 10.7% of adult Necuans, have a history of gallbladder problems with 24.1% of adults having a family history of gallbladder problems. According to local physicians as well as a cardiac surgeon, an epidemiologist, and an endocrinologist in the United States, this suite of illnesses and frequencies suggests highly under-diagnosed and under-treated diabetes.

Table 1
Necuan Personal Illness History (self-report), N=84

Condition	Count	Frequency (%)
severe eye problems	37	44
blood pressure	27	32.1
low/variable	16	19
high	15	18.5
kidney problems	15	17.9
diabetes	12	14.3
allergies	12	14.3
ulcers	11	13.1
parasites	9	10.7
gallbladder problems	8	9.5
obesity	7	8.3
arthritis	7	8.3
urinary tract infections	6	7.1
heart problems	6	7.1
tumors	4	4.8
asthma	5	6
sexually transmitted diseases	1	1.2
cancer	1	1.2

Table 2
Necuan Family Illness History (self-report), N=84

Condition	Count	Frequency (%)
diabetes	67	80.7
hypertension	55	65.5
heart problems	36	42.9
kidney problems	23	27.4
ulcer	21	25
gallbladder problems	20	24.1
obesity	19	22.6
hepatitis	19	22.6
urinary tract infections	15	17.9
allergies	11	13.1
asthma	10	11.9
tuberculosis	9	10.7
arthritis	9	10.7
cancer	7	8.3
parasites	7	8.3
tumors	5	6
rheumatic fever	4	4.8
severe eye problems	4	4.8
sexually transmitted diseases	1	1.2

Prevalent self-reported illnesses also include a high frequency of a lay condition of low and/or variable blood pressure. If it can be assumed that eye and kidney disorders and high blood pressure are related to diabetes that has a prevalence of 14.3%, then low/variable blood pressure becomes the most frequent illness at 19.1%. While symptoms for this condition do not match the biomedical symptoms of clinically low or variable blood pressure, Necuans believe they are experiencing clinically low blood pressure. Their biomedical providers even treat complaints of low or variable blood pressure, some with pharmaceuticals, others with prescriptions of rest and small, sugary snacks.

Another reputed health problem in indigenous communities is alcoholism. Interviews in 1999 in four indigenous communities did not specifically address alcoholism; interviews in 2000-2001 in Necua, however, did. Necuans are upfront about problems with alcohol. Two sufferers of high blood pressure and diabetes specifically attribute their illnesses to past alcoholism. Also, 10.7% of Necuans report current binge drinking, while four more (4.8%) state problems with binge drinking in the past. Regular, daily drinking is unlikely because, practically speaking, it is prohibitively expensive for poor Necuans. There also appears to be social censure on chronic drinkers. It is considered both a waste of money and an irresponsible lifestyle.

Although self-report on drinking was higher than expected, it is likely that binge drinking is a larger problem than the interviews revealed. Binge drinking occurs mostly by males on Sundays, their one day off from work. Sundays are times of family gatherings, highlighted by meat consumption, conviviality, cock fights, horse races in the road, and beer or tequila drinking among men. For the most part, then, alcohol is primarily a weekend problem in that binge drinking can lead to accidents and arguments. According to personal observation, it does not appear to interfere with weekday work.

Mental Health

Because mental illness is closely allied with problem drinking and many Necuans are aware of negative outcomes of problem drinking, a reasonable expectation is to find a similar awareness of mental illness. However, as a specific category of illness, it is not recognized except in extreme cases. For example, the twenty-item depression checklist, CES-D (Center for Epidemiological Studies-Depression), was initially used to identify adults with potential depressive conditions. This instrument has been successful as a diagnostic tool with U.S. migrant farmworkers from Mexico and among Mexicans in Tijuana, Baja California (Vega et al. 1986; Vega et al. 1987). Back-translated and validated, it nonetheless was unintelligible to most Necuans. The degree to which the instrument's statements had to be explained made responses invalid. There are various possible explanations for this. Most questions refer to impacts on ability to maintain daily living activities. Most Necuans' response to this is that the work has to be done and they will do it, however sick they are. Another possibility is that a sustained emotional state, such as sadness or depression, is not considered a "mental" illness by Necuans. It is seen, instead, as an affect of both the body and the mind, manifesting in illnesses such as low blood pressure. Questions about these conditions – rather than their emotional etiologies, might reveal psychosocial impacts of sustained emotional upset.

However, there was one case of community-recognized mental illness during fieldwork. Nicknamed "Crazy," this young man had been involved in a car accident in which his brother and a friend were killed. The term "Psíco," or "psycho" is not necessarily a derogatory term to Mexicans. In fact, it stands in contrast to "loco," or crazy, which refers to someone who repeatedly acts in socially unacceptable and shameful ways. Psíco indicates someone unbalanced in a non-threatening way for socially understandable reasons.

Prone to irrational behavior and binge drinking, he is taken care of by the community. His abnormal behavior is excused. Aside from this one case, most Necuans do not perceive a separate category of mental illness. Instead, they are more likely to talk about mental and/or emotional health. When asked how they consider their mental health, 88.1% replied with "good" or "regular." The 11.9% who responded "bad" volunteered their reasons, which included death of a sibling or parent in the past year and/or chronic, debilitating illness that kept them from their normal lives. All of the latter were elderly. To these respondents, mental health is a state in which one is free from emotional trauma of recent tragic life events or illnesses.

Folk, or Non-Biomedical, Illnesses

Experience with folk illnesses in Necua and other indigenous communities in part reflects the literature on Mexican illness, which reports that among many Mexican populations, conditions are organized into non-biomedical, or folk, and biomedical illnesses. Folk illnesses common among poorer Mexicans include: mal de ojo (evil eye), frío or aire (cold air), susto (soul loss due to fright), empacho (intestinal blockage due to emotional issues), and caida de mollera (fallen fontanel in infants). Among Baja Californian indigenous populations, latido, or illness caused by witchcraft, has been reputed to be common (Owen 1962; Garduño 1994). Interestingly, however, in both 1999 and 2000-2001 interviews, latido was mentioned generally only by a handful of respondents in Santa Catarina and specifically by one Necuan. It was not a common topic in informal conversations, either. Women, especially older women, were more apt to discuss latido. It could be difficult to get specific references to witchcraft because a common belief is that speaking the name of the witch or his victim and/or discussing the specific nature of the illness grants dangerous power to the witch (Wilken Robertson, personal communication, July 1999). As a result, vague responses of knowing someone who had been struck by latido are more frequent than detailed accounts.

Also contrary to expectation, only two folk illnesses, susto and empacho, were regularly reported by indigenous community members and they are modified from their more popular forms. According to Baja indigenous groups, susto is not the typical soul loss made famous by Rubel et al. (1984, also see Rubel 1975), but rather a sudden, severe fright that can leave one disconcerted with a general malaise for some time. Susto can refer either to a state of shock precipitating a biomedically-defined illness, such as diabetes, or a generalized emotional disorder brought on by a shock or fright. Empacho is an intestinal obstruction most generally affecting children and associated with emotional disturbances. The obstruction can be symbolic or physical as in constipation.

Among adult Necuans, 21.4% have had empacho at some time in their lives, and 8.3% have suffered the condition of susto or a susto that provoked a biomedically defined illness. Five adult Necuans have experienced both susto and empacho. This high prevalence of these types of folk illnesses suggests that Necuans are similar to other, non-indigenous rural poor Mexicans in their folk illness beliefs and experiences (as reported in Finkler 1994b).

Other folk illnesses, such as mal de ojo and caida de mollera frequent among other poor, Mexican populations (Finkler 1994b, 2001) and present in Baja California in the 1950s (Owen 1962), were simply not present among those interviewed in 1999-2001. Perhaps more interesting is that more indigenous community members have not experienced other folk illnesses such as aire or mal de ojo. Again, contrary to expectations, in communities such as San Antonio Necua, proximity to Ensenada seems to have increased exposure to the Mexican biomedical model of disease rather than to the mestizo folk model. Possibly precisely because of their proximity to Ensenada, Necuans rely more on biomedical models because of perceived prestige associated with the formal, professional sector of health care in Mexico.

Common Illness Etiologies and Notions of Prevention

Common illness Etiologies

Among most Mexicans – indigenous and mestizo, there is little separation between mental and physical etiologies so common in biomedical practice in the United States. The common etiology for most chronic illnesses is an ongoing and/or sudden onset of a traumatic emotional state. Both lifestyle factors and emotions play a role in typical etiologies of poor, urban mestizo populations in Mexico (Finkler 2001). Even among biomedical providers in Mexico, emotional states are frequently referred to as incipient causes of acute physical illness (Finkler 1994b, 2001; provider interviews, fieldwork, 1999, 2000). Emotional states that can provoke illness include prolonged worry or stress, a sudden fright generally precipitated by an accident or death in the family, anger or rage, and enduring sadness from a death in the family.

Table 3
Beliefs of Cause, Treatment, and Prevention for Chronic and Acute Illnesses, N=59

		ILLNESS BELIEFS			
		Don't Know	**Folk Biomedical**	**Folk Non-Biomedical**	**Biomedical & Non-Biomedical**
CHRONIC ILLNESS					
(cardiovascular disease and diabetes)	**Cause**	38.0% (19)	20.0% (10) (e.g., too much lard)	26.0% (13) (e.g., too much worry)	16.0% (8) (e.g., too much lard and worry)
	Treatment	14.0% (8)	28.1% (16) (e.g., eat less lard)	14.0% (8) (e.g., herbal bath and smoke cleansings)	43.9% (25) (e.g., eat less lard and herbal baths and cleansings)
	Prevention	46.4% (26)	41.1% (23) (e.g., don't eat lard)	5.4% (3) (e.g., don't worry so much)	7.1% (4) (e.g., don't worry so much and don't eat lard)
ACUTE ILLNESS					
(flu/cold and bronchitis)	**Cause**	22.2% (4)	8.3% (1) (e.g., micro-organisms)	0	58.3% (7) (e.g., micro-organisms brought by winds)
	Treatment	0	0 (e.g., Vicks Vapor Rub)	25.0% (3) (e.g., herbal teas)	75.0% (9) (e.g., Vicks Vapor Rub and herbal teas)
	Prevention	53.8% (7)	15.4% (2) (e.g., hygiene)	23.1% (3) (e.g., wearing warmer clothes)	7.7% (1) (e.g., increased hygiene and warmer clothes during winter months)

Most indigenous community members attribute illness to more than one cause, and at least one cause of physical symptoms is generally emotional (see Table 3). A similar mix of biomedical and non-biomedical etiologies exists for acute and chronic illnesses. However, emotional etiologies only apply to chronic illness. Non-biomedical etiologies for acute illness are not related to emotional states and, moreover, are always used in conjunction with biomedical etiologies, e.g., gripa is caused by micro-organisms that are brought in by cold winds.

The high frequency of "don't know" as a response to the question of what caused the illness was most likely due to the lack of information passed between doctors and patients about biomedical cause, treatment, and prevention during the clinical encounter. "Quién sabe?" (Who knows?) and "Soló Díos sabe." (Only God knows.) were the two most common expressions. Both doctors and patients reported that the focus is on how to immediately alleviate current distress or pain. Even though community members seek biomedical care, they do not perceive the clinical encounter as an opportunity to gain biomedical information or concepts that could help them in their treatment regimens and in prevention of future illness episodes.

In the 2000-2001 interviews in Necua, local etiologies were collected for the most pressing illnesses: diabetes, low/variable blood pressure, high blood pressure, and kidney disorders; severe eye problems were not included in these interviews as they appeared to correspond to multiple illnesses. As illustrated in Table 4, etiologies are based on a combination of emotional states, heredity, lifestyles factors, and/or physical conditions. Many individuals attribute most illness initially to an emotional state (or pregnancy, if applicable) and then upon further discussion, will allude to lifestyle factors or physical conditions. Strong emotions, such as sadness, anger, or worry/stress are triggered by major life events such as the death or accident of a family member. They, in turn, can cause low blood pressure, diabetes, and high blood pressure. Similarly, anger, or coraje, and a bad shock, or susto, can cause high blood pressure and diabetes. Kidney problems, however, are not associated with emotional causes.

More detailed etiological information comes from the thirty-five case studies from Necua who were selected in 2000 in part for their experiences with diabetes, high and low/variable blood pressure, and/or kidney disease. For example, four of the thirty-five case studies cite heredity as a cause for their diabetes, high blood pressure, and/or kidney disease. The notion of an inherited propensity to an illness normally does not include an understanding of genetic inheritance but rather a folk understanding of families or groups with a preponderance of certain illnesses. There is also an explicit recognition among some Necuans of the role of lifestyle factors. Three of the thirty-five case studies are admitted recovering alcoholics; two of these attribute their diabetes and high blood pressure to alcohol. Obesity is implicated in diabetes as well as kidney problems. Excessive work involving physical exertion can also cause high blood pressure and kidney problems, similar to mestizo, urban patients (Finkler 2001).

Table 4
Local Etiologies of Prevalent Illnesses

	CONDITION			
	Low Blood Pressure	**High Blood Pressure**	**Kidney Disease**	**Diabetes**
CAUSE				
Strong Emotion				
Anger		√		√
Sadness	√	√		√
Shock		√		√
Worry	√	√		√
Heredity		√	√	v
Lifestyle factors				
Alcoholism		√		√
Obesity		√	√	
Excessive Work		√	√	
Physical states				
Dehydration			√	
Infirmity		√		√
Pregnancy	√	√		
Old Age		√	√	√

After emotional states, heredity, and lifestyle factors, the final category of causes is physical state. Old age can cause high blood pressure, kidney disease, and diabetes, while infirmity can encourage high blood pressure and diabetes. Two women considered their high and low blood pressure problems directly tied to their pregnancies. One woman gained weight during pregnancy, and her blood pressure increased to a clinically high level. With medicine and weight loss, the pressure was restored to a clinically normal level. The other woman's low blood pressure began with her first child. At times, it is severe enough to restrict her daily tasks (this was rare to hear, and it is noteworthy that this woman, a mestizo, married into Necua). Finally, some Necuans claimed dehydration can provoke kidney disease. Overall, however, these physical states were generally associated with life changes and their accompanying emotional responses.

Etiologies for these four conditions reflect a blend of biomedical, folk, and folk biomedical beliefs. They resemble etiologies collected by other anthropologists working with mestizos (e.g., Finkler 1994a, 2001; Young and Garro 1994), rather than a specifically unique, "indigenous" way of thinking. Similarly, when present, notions of prevention center on maintaining emotional and/or physical equilibriums as well as a "healthy" lifestyle. The only particularly indigenous notion of prevention is the desire to return to a more 'indigenous' (indígena) diet of fresh foods lacking fat and additives (discussed below). As with etiologies, preventive beliefs for kidney disease lack the emotional component. Cause and prevention of kidney disease revolve around lifestyle factors, such as consumption of liquids (water/coffee), excessive work, obesity, and old age.

Notions of Prevention

Notions of prevention are not common among indigenous community members, except related to diabetes and high blood pressure. This may have to do with recent public health campaigns focused on preventing chronic illnesses. Correspondingly, as noted in Table 3, there are fewer "don't know" responses (respectively, 46.4%versus 53.8%) and more folk biomedical response for chronic illnesses than acute illnesses (respectively, 20.0% versus 41.1%). Aside from "don't know," the most prevalent response as to what can prevent diabetes and/or cardiovascular disease is something about following a healthy diet (41.1%). Interestingly, however, if a means of prevention is cited as a healthy diet, it is not assumed that the cause is an unhealthy diet. That is, there is not a one-to-one relationship between prevention and cause (Table 3). This is most likely due to the fact that most Mexicans, indigenous included, believe in multiple causalities, frequently placing the emotional cause before the physiological or physical environmental one (Finkler 1994b, 2001).

The presence of prevention ideas does not translate into increased knowledge among those with the actual illnesses. For example, in Necua, approximately two-thirds of case studies in Necua suffering from one or more of these conditions believe they cannot be prevented. This is in stark contrast to concepts of causation: approximately two-thirds of case studies have clearly defined causes for their conditions. When present, notions of prevention apply mostly to diabetes, low/variable blood pressure, and high blood pressure (Table 5). Diabetes and low/variable blood pressure are the two illnesses most associated with emotional state. Logically, maintaining emotional balance in one's life would thus help to avoid these illnesses. High blood pressure requires both emotional and physical instability; continuing medications and exercising can help to prevent high blood pressure. Yet this rather biomedical preventive model came from the only Necuan educated past high school, indicating he has spent considerable time outside of Necua in an institution primarily composed of mestizos (i.e., a teaching normal, or institute).

Lifestyle factors were also cited as means of prevention by six Necuan case studies. Two women with kidney problems advise drinking more water and less coffee, a liquid staple among Necuans. One man with advanced diabetes and another with chronically high blood pressure advocate constant medication. Exercise was noted only by one case study, the teacher mentioned above. In spite of the paucity of specific prevention techniques, approximately one-half (16) of case studies understand the basic healthy diet encouraged by physicians and public health campaigns: increased cooked (to avoid contamination by unboiled water) vegetables; no flour, lard, butter, soda, or sweet bread (pan dulce); reduced coffee consumption; and no smoking. Most cases only knew a few components of this healthy diet, but each case study was aware that diet is supposed to make a difference in one's health. Difficulty adhering to this diet in their rural, poor environment is one possible explanation why diet is not more fully incorporated into Necuan prevention beliefs or behavior.

Table 5
Beliefs About Prevention of Prevalent Illnesses

MEANS OF PREVENTION	CONDITION			
	Low Variable Blood Pressure	High Blood Pressure	Kidney Disease	Diabetes
Maintaining equilibrium				
Emotional	√			√
Emotional & Physical		√		
Lifestyle factors				
Diet	√	√		√
Exercise		√		
More water			√	
Adherence to Medications		√		√

In general, concepts of prevention are not discussed during the clinical encounter. The primary source of prevention information is through public health campaigns sponsored by the Secretary of Health on the radio and/or sporadically conducted in indigenous communities. These campaigns stress healthy diets, consuming less grease, white flour (flour tortillas), and high sodium sopas (a processed soup with small bits of pasta, or fideos) and eating more fresh fruits and vegetables washed in a bleach solution to free them of animalitos, or micro-organisms that cause gastro-intestinal distress.

There is a common notion among Necuans of a uniquely indigenous diet. No one really follows this diet, but it is perceived as natural and preventive. It is free of processed and foreign foods and additives. Alcohol is absent, as are refined sweet foods. Instead, wild grasses and grains supplement wild game, piñon nuts, juniper berries, and seafood. It is said that this diet of the 'ancient ones' (los ancianos) kept Necuans of the past free of disease. These Necuans died only of old age or from injury during warfare. In this sense, a natural, indigenous diet is symbolic of a time prior to European colonization and lifestyles when Necuans had free range to lands and resources that theoretically belonged to everyone. In their current sedentary situations with declining stocks of wild game, deteriorating quality of water and arable lands, and increasing consumption of processed, 'modern' foods, Necuans associate increasing rates of illness with a non-indigenous lifestyle. The implication is that indigenous groups have no choice in these processes of assimilation and peripheralization, and they inherently understand that the indigenous way of managing the environment and social groups is healthier and more sanitary.

While it could be argued that the increase in illness has as much to do with an increase in diagnostic ability as changes in diet and lifestyle, the message behind the indigenous diet argument is sound. The recognition of cultural loss, lifestyle modification, and marginalization is rarely this explicit among Necuans, aside from land tenure debates. In this one arena of health, then, is a means by which Necuans recognize and criticize detrimental effects of colonization, industrialization, and rigid Mexican socioeconomic structures.

Witchcraft

In many poor, rural communities of Mexico, the prevalence of witchcraft can be a catchall cause when biomedical and non-biomedical treatments (unrelated to witchcraft) fail to alleviate symptoms (Finkler 2001). Witchcraft has been posited as the primary belief to explain most illnesses, regardless of type and success of treatment, by indigenous community members of Baja California (Garduño 1994, Owen 1962). Its hypothesized ubiquitous presence is said to be evidence of past supernatural beliefs in the power of the traditional indigenous shaman, or *kuseyaay*.

However, there was no evidence of this more "traditional" or "indigenous" supernatural etiology of witchcraft during interviews and observations during 1999-2001. In Necua, only one story was recounted of possible witchcraft, and it was not connected to illness. Moreover, it dealt with an annoying incident rather than an illness-causing curse or spell. It is important to recognize that this type of witchcraft resulting mostly in benign annoyance is unlike the witchcraft in indigenous communities reported by Owen (1962). This hex, if that is what it was, was meant to aggravate the recipient and send him a message that someone held ill will toward him. This was not the severe illness or death-causing witchcraft of centuries past. The milder witchcraft is similar to the spells advertised in several different curanderos' shops in Ensenada and casually discussed by mestizos. Thus in this belief, as well, characteristics resemble mestizo convictions more than a particularly indigenous manner of thought. The absence of a more specifically indigenous form of witchcraft is not surprising in light of a history of cultural assimilation and destruction of traditional health beliefs and healers.

Community Health Concerns

During 1999 interviews in the four indigenous communities, specific illness concerns were (in order of frequency): diabetes, high blood pressure, flu/cold, rheumatism, and gastrointestinal conditions, including parasitosis and ulcers. Although respondents were cognizant of community health problems, they were more apt to discuss the lack of community health care services. These were (in order of frequency): lack of a constant health care provider, lack of transportation to health care providers in nearby *ejidos* and *Ensenada*, and insufficient resources for medicines.

Table 6
Community Health Concerns

COMMUNITY HEALTH CONCERNS (in order of frequency and emphasis)	
Structural	
	increased coverage for medications
	increased coverage of population
	complete and consistent care for illness cycle
	improved organization of care
	means of transportation to care
Specific illnesses	
	diabetes
	high blood pressure
	gripa

Similar to their relatives, Necuans focus significantly more on structural issues rather than the near-epidemic prevalence of some illnesses. In the 2000-2001 interviews in Necua, the basic understanding was that increased access to more comprehensive, constant biomedical, acute health care will result in fewer illnesses, shorter recovery times, and increased chance of recovery. Many also recognized that community development projects, such as recent commercial alfalfa farming or reconstruction of existing water pipelines, will bring more wealth to the community. Few were explicitly aware, however, of the potential tie between development and improved health. That such infrastructure and employment opportunities will also improve overall living conditions that can help to prevent illness is not a conclusion reached by most Necuans. To them, improvement in community infrastructure can instead lead to increased reliance on mestizo culture, resulting in more illness, while simultaneously providing a means to create wealth and increased biomedical coverage.

Structural health concerns include: insufficient coverage of community members and medications, incomplete and inconsistent care during an illness, disorganization of delivery of care, and no means of reliable, cheap transportation to care. An inability to afford medications prevents Necuans from finishing treatment. Many Necuans, even though ostensibly covered by SSA, find themselves unable to procure care when most needed. Until 2000, IMSS did not cover families of those workers it covered, and until late 2001, little care was available for the elderly poor (now a new program under ISSSTECALI covers registered elderly, if they can get to Ensenada). The lack of a reliable means of transportation to care in Guadalupe Hidalgo or Ensenada is probably one of the biggest barriers to otherwise available care. Community members look to the Medical Aid Network or similar organization to resolve this problem by providing a van or car to transport people, but the Medical Aid Network currently does not have the funds to do so.

Specific illness concerns among Necuans are diabetes, high blood pressure, and gripa (flu/cold). Concerns of diabetes and high blood pressure are related to both the incidence of these two illnesses in the community, particularly among its leaders and respected elders, and state-wide public health campaigns to address the increasing incidence of diabetes and high blood pressure across the state. For example, several years ago, diabetes was responsible for the death of the patriarch of one of the two Necuan clans and its traditional chief. His diabetes and its poor medical management remain frequent topics of conversation. Also, high blood pressure is constant conversation in the small government store . [Government stores in rural communities are part of CONSUPO, or the National Commission for Popular Subsistence, program. The goal is to make a wide variety of foods and products available to rural communities for low, set prices.] The proprietor has very high blood pressure and is the owner of the only blood pressure cuff in town. Before a new store opened in the community in 2000, his store was also the only place in the community to buy food and other necessities. He keeps the cuff at the store, in case someone wants to check their blood pressure. Through his highly publicized bouts with high blood pressure and the high prevalence of high blood pressure in the community, it is no surprise that it is a major community health concern. The third specific illness concern, gripa, warrants attention because it attacks so many children. Each winter, parents watch gripa develop into secondary infections such as bronchitis and pneumonia and spread through families. Whether or not it can be biomedically treated depends on its pathogen, but Necuans believe it can be cured by biomedicine, regardless of clinical strain. As this illness affects their children regularly, they are particularly keen to address its incidence.

Discussion

The communities' indigenous history shapes current access to health care and health and illness beliefs via its historical and current marginalization. Biomedicine is the preferred form of care but is frequently unavailable. Moreover, remnants of indigenous beliefs persist in those areas, such as herbal remedies, not eradicated during the colonial period; these

stand in contrast to the many aspects of traditional indigenous life that were violently discouraged, such as traditional leaders and healers. As a result, Necuans do not adhere to a specifically "indigenous" health and illness belief system but rather one that is heavily influenced by mestizo folk and Mexican biomedical themes. Biomedical models of illness and a preference for biomedical health care are common. There is not much evidence of an "indigenous" belief system, aside from an extensive knowledge of local medicinal herbs and their preparations. Moreover, use of medicinal herbs is a fundamental part of mestizo self-care and thus cannot be isolated as an "indigenous" treatment system, per se.

On a structural level, health care, illness, and community health concerns in San Antonio Necua and the other indigenous communities in Baja are influenced by a variety of factors: a history of lack of access to adequate care due to cultural, geographic, and socioeconomic isolation; theoretical but unrealistic national health care coverage; assimilation into mestizo health and illness beliefs; and genetic predispositions to certain illnesses such as diabetes. By self-reports that most likely contain gross under-representation of illness, the communities are rife with illness. In isolated, poor communities with a lack of constant and adequate health care, health care access is limited, at best. High prevalences of manageable illnesses and community health concerns focusing on the lack of care predominate in conversations about health. Despite some difference in community health concerns and the degree of reliance on biomedical models between Necua and other indigenous communities, one basic similarity remains constant: a lack of basic infrastructure and socioeconomic resources that contribute to high rates of preventable and/or manageable illnesses, inability to follow desired treatments, and poor access to adequate health care.

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